Air Discharge Permit Taranaki Combined Cycle Power Station

Decision of Hon Simon Upton Minister for the Environment

23 March 1995

MINISTRY FOR THE ENVIRONMENT
MANATŪ MŌ TE TAIAO

PROPOSED TARANAKI POWER STATION - AIR DISCHARGE RESOURCE CONSENT

APPLICATION

1. In November 1993 the applicant (ECNZ) applied to the Taranaki Regional Council for resource consents to construct and operate a gas fired combined cycle power station, including an application for an air discharge permit to discharge and emit into the air the products of combustion of natural gas (such as carbon dioxide). The level of CO_2 emissions was estimated to be a maximum of 1.5 million tonnes per year.

PROPOSAL

2. The proposal is for a 400 megawatt combined cycle power station, which would use natural gas to run gas turbines to produce electricity. Waste heat is to be recovered and used, increasing the efficiency compared to a simple gas turbine system.

3. In the Assessment of Environmental Effects the applicant has taken an envelope approach. Instead of providing final design details, the assessment is based on maximum predicted values. This is to allow the applicant some lee-way in final design with the understanding that if final design parameters are exceeded then further consent applications will be required.

CALL-IN

4. Under section 141 of the Resource Management Act 1991 ("the Act"), on 9 December 1993, as Minister for the Environment, I called in the air discharge permit application relating to the applicant's proposed Taranaki combined cycle power station ("the TCC"). The air discharge permit was called in on the grounds that the proposal was -

> *"of national significance and, given the scale of carbon dioxide emissions from the TCC power station, it is likely to arouse widespread public concern or interest regarding its likely effect on the environment and affect New Zealand's ability to meet its obligations under the United Nations Framework Convention on Climate Change."*

5. The remainder of the resource consents continued to be heard and determined by the Taranaki Regional Council and the Stratford District Council. On 25 May 1994 the Taranaki Regional Council granted the applicant 10 resource consents covering the taking and use of water, discharge of water, stormwater and contaminants, and the placement of structures, pipelines, utilities etc in river beds.

Stratford District Council granted, in March 1994, a land use consent for access way on to the site.

SUBMISSIONS

6. A total of 419 submissions were made on the air discharge application. These included both the submissions originally made to the Taranaki Regional Council before the call-in and those made to me, as the Minister for the Environment, after the call-in.

7. 361 opposed the application (some suggesting conditions) and 32 supported the application. The remainder were neutral or did not indicate a position.

BOARD OF INQUIRY

8. Under section 146 of the Act, I am required to appoint a Board of Inquiry to consider a call-in application. In early March 1994, I appointed the Board of Inquiry. Its members were David Williams Q.C. (Chairman), Professor David Elms and Mr Noel Johnston JP.

9. The Board of Inquiry held a pre-hearing meeting on 19 April 1994 which focused on determining the procedure for the hearing. The Board required the applicant to supply further information relating to the need for additional generating capacity, alternative means of generation and of dealing with the discharge.

10. The Board held hearings on the matter in Stratford from 11th to 26th July 1994. The applicant called 13 witnesses and a further 25 persons presented evidence and/or submissions. The Board completed its report and submitted it to me on 15 February 1995.

11. Pursuant to section 37 of the Act I have extended the time by which I have to issue my decision, by a further 20 days. The time expires on 11 April 1995.

THE BOARD'S RECOMMENDATIONS

12. The Board recommended that I grant the application for the air discharge permit subject to conditions. These included a condition requiring the full mitigation of CO_2 emissions by way of a carbon sink to store in perpetuity the equivalent quantity of carbon emitted from the site over the term of the permit. Further conditions were recommended to address the effects of other emissions.

13. The Board made it clear that if it had reached the view that there was no jurisdiction for me to impose the mitigation condition for CO_2 emissions it would have recommended that the consent be refused. The Board recommended that the consent be granted for a period of 34 years and that it be granted with a lapsing period of 6 years (i.e that the consent lapse six years after the date of approval if the consent has not been acted upon).

14. The Board also recommended that I prepare a national policy statement under the Act to address CO_2.

SUMMARY OF BOARD'S KEY FINDINGS

15. The Board's principal issues are set out at pages 11-13 of the Report. The findings of fact are set out at pages 223-227 of the Report.

16. The following is a summary of what I have taken to be the Board's primary findings of fact and considerations which led it, both in legal and evidential terms, to its recommendations.

17. The Board considered that the United Nations Framework Convention on Climate Change ("the FCCC") was directly relevant to the application. It stated:

> *"The combined effect of s140(2)(e) and s147(4)(b) of the Act and the terms of the Minister's call-in makes this particular Convention a relevant consideration. Thus the importance of the FCCC has been accentuated because the RMA specifically directs the Board to consider New Zealand's international obligations to the global environment".* (Paragraph 4.40).

18. The Board concluded that:

> *"we must regard the need to adhere to the spirit of the FCCC as a material and significant factor in the process which we are required to carry out in formulating our recommendations".* (Paragraph 4.44 (iii)).

19. The Board was convinced by the evidence that the enhanced greenhouse effect and the possibility of climate change is of serious concern.

20. The Board concluded that:

> *"There is a phenomenon known as the enhanced greenhouse effect by which human activity contributes to the warming of the earth's surface and lower atmosphere through the discharge of greenhouse gases. There is a widespread scientific agreement that the rate of discharge of greenhouse*

gases world-wide will lead to significant global warming. Carbon dioxide is a major greenhouse gas." (Finding of fact No. 6, Page 224).

The Board went on to state:

"There is controversy as to the nature and severity of the physical effects of global warming, but there is a strong possibility that global warming would be likely to result in significant changes to the global environment such as sea level rise, changes in weather patterns, and an increase in the frequency and severity of extreme events such as storms or droughts." (Finding of fact No. 7, Page 224).

21. The Board accepted that the new power station is efficient and that, regardless of ownership, the power station would be used first before other thermal power stations. Although the Board acknowledged it is likely that the proposed power station would lead to a reduction in CO_2 emissions at the year 2000, it favoured the argument that, if the capacity to discharge CO_2 is increased, then, in the long run, the actual discharge will increase. The Board concluded that:

"In the longer term, the proposed station would ... increase New Zealand's emissions of CO_2... It would make it significantly more difficult for New Zealand to fulfil its international obligations to the FCCC ... and so from that point of view the discharge would be harmful to New Zealand". (Paragraph 7.100).

22. The Board considered the relevance of the Government's policy statement of July 1994 and evidence from the applicant and the Ministry for the Environment that granting the consent subject to proposed conditions would not be contrary to Government policy. The Board considered the real question to be whether a recommendation that a consent be granted is consistent with the Act. The Board concluded that:

"while we must take note of the Government policy statement it does not materially affect any of the overall matters we are required to consider by law under the RMA concerning the environment and New Zealand's obligations to the global environment." (Paragraph 5.13).

23. The Board went on to look at what the Act requires in terms of avoiding, remedying and mitigating the adverse effects. The Board considered that the Act requires adverse effects be avoided, remedied or mitigated. The Board regarded this as a hierarchy and stated that the duty is first to avoid, and if this is not possible then to remedy, and if neither is possible then to mitigate (see paragraph 7.107).

24. The Board found that:

> *"the discharge of CO_2 could be avoided by not building the power station. Thus ECNZ must demonstrate the need for the station, that there is a need for increased power supply, and that the increase could be met only by a combined-cycle thermal power station and not by alternative means which would not produce a discharge of CO_2. Alternatively, the effects of the discharge could be remedied or mitigated."* (Paragraph 7.108).

25. The Board stated that:

> *"the applicant must make a sufficient showing that there is a need for the proposed power station and that the station would have positive effects which would balance or outweigh the adverse effects".* (Paragraph 8.1).

And further that:

> *"... there is the statutory requirement that any adverse effects must if possible be avoided. In the present case, the effects of discharging CO_2 could be avoided by not building the proposed power station at all, by perhaps instead substituting some other means of responding to the suggested demand for electricity".* (Paragraph 8.1).

26. The Board discussed at some length perceived inadequacies or omissions in the applicant's evidence relating to demand projections. It concluded that the applicant had not established, to the Board's satisfaction, that electricity demand would grow at a rate sufficient to necessitate construction of a new power station in the near future. The Board considered that the adverse effects could be avoided by not building the power station and using instead alternative means of generation which do not discharge CO_2 into the air, such as wind power.

27. The Board stated that it would have preferred the applicant to have voluntarily ensured that there would be no additional emissions from its power generation system but as no such offer was made it went on to consider what other mitigation options were possible under the Act. The Board stated:

> *"It would be technically possible to mitigate the discharge of CO_2 from the proposed station by removing CO_2 directly from the station's exhaust gases. However, it would be neither economic nor practicable to do so."* (Finding of fact No. 22, page 226).

And further that:

> *"Mitigation or remediation of the adverse environmental effects of allowing the discharge of CO_2 could be carried out by ongoing planting of a sufficient number of trees to act as a permanent carbon sink. The imposition of a mitigation condition to this effect would be reasonable and practicable in the circumstances."* (Finding of fact No. 23, page 227).

28. The Board looked in detail at the legal validity of a mitigation condition to require tree planting. Section 108 was examined in order to establish whether such a condition is sufficiently related to the adverse effects to be termed "mitigation" and therefore can be imposed by way of section 108(2) or whether it is in fact a financial contribution (as described in section 108(9)) and can not be imposed without a plan.

29. The Board concluded that:

> *"In our view, based on our findings as to effects and the undisputed evidence that forestry planting provides a means of reabsorbing CO_2 from the atmosphere and storing it in plant tissue, there is a sufficient connection between the discharge activity and the suggested off site activities."* Paragraph 9.43)
>
> *"... in our view forest planting is a method to extract CO_2 from the atmosphere which is neither technically difficult, environmentally harmful nor prohibitively costly.* (Paragraph 9.62)

30. The Board recommended a condition which will require the consent holder to establish a carbon sink sufficient to eventually store in perpetuity the equivalent quantity of carbon emitted from the site over the term of the permit.

FACTORS I MUST CONSIDER IN MAKING A DECISION

31. Section 149 of the Act sets out the matters I shall have regard to when considering my decision. These are the report and recommendations of the Board of Inquiry and the matters set out in section 104 of the Act. The Board, in its report, had regard to all relevant matters under section 104 and its major findings lie within these parameters. I have therefore not addressed the Board's report and section 104 matters separately but have dealt with the Board's report under the headings of section 104.

32. The Board has recommended that I initiate the process for the introduction of a National Policy Statement ("NPS"). While I accept that the policy implications of this decision are significant and propose to consider the NPS recommendation in this light, I will not be addressing this recommendation until I have had further discussions

with my colleagues. A decision on the NPS recommendation is not governed by the statutory deadline for considering the discharge permit application.

MATTERS RELEVANT TO MY DECISION

PART II OF THE ACT

33. The matters in section 104 of the Act are subject to Part II of the Act.

34. The Board considered section 5 of the Act at paragraphs 3.5, 3.6 and 3.12. The Board concluded, in the context of considering:

(i) whether the proposed use of the air resource was sustainable in terms of section 5; and

(ii) whether the extent of the need for additional future electricity generation helped to establish whether the proposed activity would enable the people of New Zealand to provide for their social and economic wellbeing,

that the evidence concerning "need" for the proposed power station is relevant only insofar as it relates to the assessment of effects of the activity on the environment under section 5(2) and section 104(1)(a) and the issues connected to the application for an extended lapse period of six years (see paragraph 3.12). I comment on the Board's discussion of need under the heading "The Extent and Nature of Mitigation" below.

35. The Board does not explicitly consider any of the matters in section 6 of the Act. I concur with the Board's approach.

36. The Board had particular regard to the following matters in section 7 of the Act:

- kaitiakitanga (section 7(a)); and

- maintenance of the quality of the environment (section 7(f)).

37. In relation to section 7(a) the Board concluded that:

> *"In considering whether air emissions from the proposed power station might degrade the local environment and in considering the 'enhanced greenhouse effect', the Board is having regard to the principle of kaitiakitanga in respect of the air resource.* (Paragraph 1.12).

I concur with the Board's conclusion.

38. In relation to section 7(f) the Board held the same view as it did in relation to section 5 (see paragraph 34 above). As stated above I comment on the Board's discussion of need below.

39. The Board took account of the principles of the Treaty of Waitangi at paragraphs 1.14 - 1.15, and stated:

> *"The Board concludes that Treaty principles have been addressed with local iwi through the consultation process and that their interests and concerns have been safeguarded to the extent necessary through designation and outline plan".*
> (Paragraph 1.15).

I concur with the Board's conclusions.

SECTION 104 OF THE ACT

Section 104 (1)(a)

40. Under section 104(1)(a) of the Act, I have had regard to the actual and potential environmental effects of allowing the activity.

Local Environmental Effects

41. In terms of the local effects, I have considered the effects of the discharge, including the discharge of nitrogen dioxide, particulates, sulphur dioxide and water vapour. I have considered the Board's findings on health effects, effects on plant life, water vapour, spray drift, residual heat in the exhaust gas and emergencies. I support the Board's findings that the effects of the discharges to air of substances other than CO_2 can be adequately controlled by conventional consent conditions so that the residual effects are minor.

42. The Board recommended a number of conditions to address the local environmental effects (see conditions 10, 11, 12, 13 and 14). In my view these conditions do not correctly apply the Ministry for the Environment's Ambient Air Quality Guidelines. However, in the circumstances of this particular case, and in light of the degree of evidence heard by the Board, I do not intend to amend them.

43. I have altered the condition relating to best practicable option ("BPO") (condition 5), by deleting the proviso. The proviso removes the BPO duty from all contaminants other than CO_2. For BPO to be of practical effect it needs to apply to all contaminants. The other specific conditions (mentioned in paragraph 41 above) only set absolute 'bottom line' standards for air quality below which there are significant adverse effects on human health. These values give specific certainty for both the applicant and the community but do not guarantee existing air quality is

maintained. The BPO duty should complement these standards to ensure the existing ambient air quality is maintained and, where possible, enhanced. I am satisfied that the BPO condition is the most efficient and effective means of preventing or minimising any actual or likely adverse effect on the environment.

Effects of National Significance

44. I have given consideration to effects of national and global significance and, in response to sections 140(2)(a) and 140(2)(e), have had regard to whether this application will affect the global environment or will affect New Zealand's international commitments.

45. The Board's findings on the enhanced greenhouse effect are consistent with the reasons that led to the Government signing the FCCC. For this reason, I concur with the Board's findings.

46. The level of CO_2 emissions from the proposed power station is calculated to be a maximum of 1.5 million tonnes per annum. This led the Board to conclude that *"the proposed discharge of CO_2 would be of sufficient magnitude to affect or be likely to affect and be relevant to New Zealand's international obligations"* (finding of fact 12, page 225). It also concluded that such a discharge itself constituted an actual or potential adverse effect and would contribute to the enhanced greenhouse effect. The Board considered that although in global terms the emissions may be small, they should not be disregarded on this basis as the contribution is still important (paragraphs 7.103 and 7.104).

47. I accept the Board's view that the potential contribution of TCC power station (being a potential increase of 5% over New Zealand's current emissions levels) is significant in terms of New Zealand's contribution to the cumulative effects on the global environment. Such a potential effect carries with it a duty to avoid, remedy or mitigate these effects under the Act.

48. However the evidence put before the Board by the applicant was that CO_2 discharged from the combined cycle power station would not be an immediate or direct addition to the national total. This is because the power station's higher efficiency means that it will be used in preference to less efficient thermal power stations thereby displacing the CO_2 emissions from these other generation options.

49. The Board seems to accept this evidence stating that *"if there is a modest rise in electricity demand, introduction of the proposed plant would be likely to result in lower emission of CO_2 from the electricity generation system as a whole for a few years"* (paragraph 7.99). However in the end the Board favoured the simpler argument that *"if the capacity to discharge CO_2 emissions is increased then in the long run, or perhaps not so long, the actual discharge will increase"* (paragraph 7.95).

50. I am persuaded by the evidence that, in the short term, the net result of the TCC power station operating is likely to be an overall reduction in total CO_2 emissions from the electricity generation sector. However, there is likely to be an increase in total CO_2 emissions from the electricity generation sector over the remainder of the duration of the consent. It is therefore appropriate to ensure by way of conditions on the consent that the applicant takes action to avoid, or remedy, or mitigate the effects of any increase in total CO_2 emissions attributable to the TCC power station.

Section 104(1)(b)-(h) of the Act

51. The remainder of section 104, with the exception of 104(1)(i) is, in the circumstances of this case, of little or no relevance to my decision. The only matter which I have had to consider is the Taranaki Regional Policy Statement ("RPS") which was made operative on 1 September 1994. The RPS objective which is "to avoid, remedy or mitigate the adverse effects on the environment of the discharge of greenhouse gases and work towards the provision of sinks for discharges of greenhouse gas" is particularly relevant to this application and my decision.

Section 104(1)(i) of the Act

52. Section 104(1)(i) directs me to consider other matters which are relevant to this decision, namely the FCCC and the Government's policy statement of July 1994. Both were put before the Board by way of evidence.

The Framework Convention on Climate Change

53. The Board found that New Zealand has an international obligation to the global environment to limit its CO_2 emissions and to enhance greenhouse sinks accordingly. I agree with the Board's findings.

54. The FCCC does impose a significant broad commitment to aim to reduce greenhouse gas emissions as well as to protect and enhance sinks.

55. New Zealand has interpreted the FCCC as requiring a net approach to CO_2 emissions. Two articles of the convention are important, Article 4(2)(a) and (b) which provides for the stabilization of atmospheric concentrations of greenhouse gases and Article 4(1)(c) which states that parties shall promote the development of new technologies to reduce the emission of greenhouse gases.

56. Article 4(2)(a) and (b) is relevant when it comes to establishing whether the proposed station is consistent with the aim of stabilizing CO_2 emissions. To the extent that the station does contribute to significantly increased CO2 emissions in New Zealand, it is potentially in conflict with NZ's objectives.

57. Article 4(1)(c) is relevant to the extent that the station uses new technology. This station is more efficient and produces fewer emissions for the same level of electricity output than from older thermal power stations. As such it is an improvement on existing thermal generation technology in NZ.

The statement of Government policy

58. The Government published a statement in July 1994 setting out its policy on climate change with the aim of returning net CO_2 emissions to their 1990 levels by the year 2000 and maintaining them at that level. It included descriptions of new and existing policy measures and projections of future emissions and absorption by sinks. These showed that the primary target of reducing net CO_2 emissions to 1990 levels would almost certainly be met through absorption by new forest plantings and emissions reductions in response to Government policies. It is the Government's policy to invite voluntary measures from industry to achieve its emissions reductions target. Furthermore the Government has confirmed it will impose a carbon charge, if emissions reduction measures are not seen to be on track in 1997 to reduce overall emissions by 3-4% (compared to business as usual) by the year 2000.

59. The Board concluded that, while it must take note of the Government's policy statement, the statement does not materially affect any of the overall matters any decision maker is required to consider in respect of the environment and New Zealand's obligations to the global environment under the Act.

60. I endorse this view. The Government's policy is not a statutory document, nor is it in the form of a national policy statement which would have force under the Act. However, it is appropriate to take the policy into account when it can shed light on matters of which statutory notice must be taken.

61. In this regard I am mindful of the fact that the Board's recommendation that carbon sinks are an appropriate form of mitigation, is consistent with the Government's view that a net approach to emissions reductions is permissible under the FCCC.

62. Bearing in mind New Zealand's accession to the FCCC and the requirements of the Act, which remain in effect notwithstanding the Government's policy statement, I consider that the Board was correct in requiring mitigation of the effects of potential emissions from the TCC.

THE EXTENT AND NATURE OF MITIGATION

63. In the absence of any policy statement or plan, there is no guidance under the Act as to the acceptable level of the emissions' mitigation required of this power

station. Faced with this the Board adopted the precautionary approach inherent in the FCCC and from this derived a requirement for full mitigation.

64. The Board considered that the words "avoid, remedy, or mitigate" are to be read as a hierarchy. In considering section 5(2)(c) the Board took the view that there is a duty first to avoid; then, if avoidance is not possible, to remedy and then, only if remediation is not possible, to mitigate. In considering this sequential approach it took the view that avoidance could be achieved by not building the power station and that this in turn allowed it to consider the *need* for the power station. The Board considered that section 5 together with section 104(1)(a) allowed it to consider the social and economic benefits of the power station, as a positive effect, if a need for additional power was demonstrated. The positive effects could then be weighed against the adverse effects.

65. It is my view that the Act does not envisage that "avoid, remedy, or mitigate" in section 5 should be applied as a hierarchy. If this had been Parliament's intention, it would have been made explicit. As it is drafted, section 5(2)(c) envisages that avoidance, remediation or mitigation will be options available depending on the circumstances of the particular case.

66. It is my view that section 5 of the Act does not require an inquiry into the need for any particular development. The Act's purpose is to allow people and communities to provide for their well-being however they may view that, while ensuring that certain environmental bottom lines or constraints spelt out in section 5(2)(a), (b) and (c) are observed. The appropriate test to apply is whether the discharge permit sought meets the tests of sustainable management. This will allow a weighing of the positive and negative environmental effects if mitigation (as against avoidance or remediation) is considered to be appropriate.

67. In the context of this decision, the issue is whether, in the light of the relevant matters detailed above, the discharge is consistent with sustainable management. Avoidance will be relevant to the extent that the power station or alternatives lead to lower CO_2 emissions; similarly, remediation will be relevant to the extent that CO_2 emissions are cancelled out or repaired; mitigation will be relevant to the extent that the severity of the scale of CO_2 emissions is reduced.

68. In my view, the Board's discussion of the need for the power station in the context of a primary duty to avoid is incorrect and not relevant to the application.

69. The Board went on to consider mitigation and discussed in some detail whether the mitigation condition was a financial contribution in terms of section 108(9). The Board concluded that the condition was not a financial contribution. I concur with the Board's conclusion. For most contaminants, mitigatation measures must occur at, or adjacent to, the site of the discharge to be effective. For CO_2 as a contaminant however, the same level of mitigation is achieved irrespective of where it

occurs. I am satisfied that the condition imposed for this contaminant is a mitigation condition rather than a financial contribution.

70. I note in passing that the Board's characterisation of the condition as a mitigating condition may be a misnomer in view of the fact that the proposal for a carbon sink would in effect absorb 100% of the emissions. It might reasonably be argued that the Board was requiring remediation rather than mitigation. If the condition was characterised as remedial rather than mitigating then, in the circumstances of this case, it is my view that it would still be appropriate.

71. In addition to being satisfied of the vires of the issuing of a conditional consent, I must also satisfy myself of its reasonableness. The Board correctly describes the legal tests of reasonableness in the following terms:

(a) The conditions should fairly and reasonably relate to the purposes and provisions of the Act; and

(b) The condition should fairly and reasonably relate to the particular development or activity proposed; and

(c) The condition should be one that a reasonable consent authority, duly appreciating its statutory duties could probably have imposed.

72. These are the tests that all consent granting authorities have to consider in setting conditions. I have made my decision in the light of these tests and in the light of my assessment of the relevant considerations to which the Board addressed itself.

73. I consider that a mitigation condition is reasonable. The potential addition of 1.5 million tonnes CO_2 is a significant increase to New Zealand's total emissions and would make the achievement of our national CO_2 limitation target more difficult. In the particular circumstances of this case I consider that a condition requiring 100% mitigation is reasonable. This application relates to a discharge of CO_2 which is a contaminant which New Zealand has entered into international obligations to limit to 1990 levels. The proposed power station represents a significant increase in New Zealand's total CO_2 emissions. In the absence of any statutory guidance on such global contaminants I called in the proposal to enable these global obligations to be given due weight.

74. In my view, the Board's findings in respect of the environmental impact of the TCC power station and its significance in terms of our international obligations under the FCCC are soundly based. As a result I have concluded that an air discharge permit sought by ECNZ should only be issued subject to certain conditions.

75. However I do not consider that the Board's proposed mitigation condition (condition 4) is reasonable. In my view, it is inappropriate to equate additional

capacity with additional emissions. The Board was not prepared to accept as mitigation any reduction in emissions caused by the TCC power station displacing less efficient power stations. The Board took the view that, without the de-commissioning of alternative generating capacity, it could not be satisfied that emissions from the TCC power station would be mitigated. In my view, it is CO_2 emissions that have environmental effects in terms of the Act, not capacity. To the extent that other emissions are displaced, there is no additional impact on the environment. Only when the proposed power station adds to aggregate thermal generation emissions can mitigation reasonably be required.

76. The condition I propose to impose requires the applicant to demonstrate that any additional increase in CO_2 emissions within the electricity generating system has not in fact occurred as a result of the power station's operation. This may, in the first few years of the power station's life, be a simple demonstration that other sources of thermal generation have been displaced and that there are no additional emissions which require remedial action. As demand rises and other forms of thermal generation are brought back into the generation system, then the consent holder is required to show how any increases in CO_2 (up to the maximum potential emissions from the TCC power station) have been avoided, remedied, or mitigated.

77. The condition I am imposing will simply require the consent holder to avoid, remedy or mitigate the effects of the additional amount of CO_2 being discharged as a result of the operation of the TCC power station for the duration of the consent. The condition will specify the methods by which the requirement to avoid, remedy or mitigate can be met. These will include securing, by way of contractual arrangements entered into by the consent holder, carbon sinks and/or CO_2 emissions reductions arising outside the electricity generation system. Such methods will need to be certified by the Taranaki Regional Council. The condition will provide the applicant with greater flexibility than that proposed by the Board while still ensuring that the effects of any increase in CO_2 emissions is avoided, remedied or mitigated.

78. With respect to mitigation through tree planting, I should observe that the Board provided little guidance as to what would constitute an acceptable carbon sink for the purposes of its mitigation condition. The Board took the view that to be credible as a mitigation measure, the applicant would have to demonstate that the planting would not otherwise have proceeded. Whilst I agree that the creation of a sink would have to involve new planting (as distinct from existing forest stands) I believe it would be impossible to prove whether or not the planting would have proceeded but for the applicant's need for a sink.

79. But it is not the act of planting that guarantees mitigation. It is the legal requirement that the carbon store in question must be maintained over time that turns a fortuitous crop into a sink. If retirement of marginal land to allow native forest regeneration were the means chosen, then all that would be required is a covenant to maintain it that way. If new plantation forestry destined for harvest were chosen, then

a contractual arrangement to secure replanting would be required. A forest will only become an acceptable sink in respect of this permit when its store of carbon is secured over time.

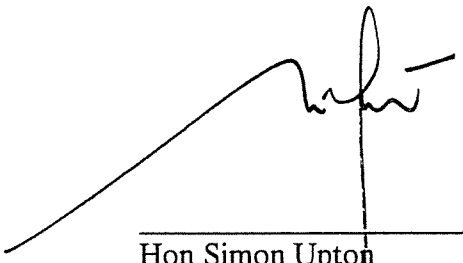
DECISION

80. Pursuant to section 149, I give consent to the applicant for the air discharge permit application, in relation to the proposed combined cycle power station in Taranaki, subject to conditions to address the local environmental effects of contaminants and a condition to fully mitigate any CO_2 from the TCC power station that is additional to the CO_2 emissions from the electricity generation system prior to the commissioning of the TCC power station.

81. This condition will require the consent holder to report annually to the Taranaki Regional Council as to whether the TCC power station has added any additional CO_2 emissions into the electricity system and if so, how those additional emissions are to be remedied or mitigated.

82. The consent will be granted for a period of 34 years and a 6 year lapse will be allowed.

83. The consent and the conditions are detailed in the attached schedule.



Hon Simon Upton
Minister for the Environment

23rd March 1995

Date

Decision

That a resource consent be granted to:

Discharge contaminants to air, subject to the following specified conditions, from a combined cycle power station and ancillary plant ("the Station") located adjacent to East Road approximately three kilometres east of the town of Stratford, legal description SEC 134 BLKII NGAERE SD.

General Conditions

1. THAT on receipt of a requirement from the General Manager Taranaki Regional Council ("the General Manager") the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent

2. THAT unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent shall be at the consent holder's own expense.

3. THAT the consent holder shall pay to the Taranaki Regional Council ("the Council") all required administrative charges fixed by the Council pursuant to Section 36 of the Resource Management Act in relation to:

   (a) the administration, monitoring and supervision of this consent;

   (b) charges for the carrying out of the Council's functions under Section 35 of the Resource Management Act in relation to this consent;

   (c) relevant charges authorised by regulations.

Special Conditions

4. THAT the consent holder shall for the duration of the consent take such steps as are necessary and effective to avoid or remedy or mitigate the effects of the additional amount of CO_2 being discharged as a result of the exercise of this consent.

5. For the purposes of Condition 4 -

   "Additional amount of CO_2 being discharged" means the Taranaki Combined Cycle Power Station's ("the power station") portion of the increment in total CO_2 emissions from the electricity generation sector above the total CO_2 emissions from the electricity generation sector during the year

preceding the year of commissioning of the power station, and up to a maximum of the actual CO_2 emissions from the power station.

"Avoid, remedy, or mitigate" includes -

(i) The provision of carbon sinks, which can be provided by third parties under contract to the consent holder; and

(ii) CO_2 emission reductions, including reductions arising from energy end use efficiency improvements outside the electricity generation system resulting from contractual arrangements entered into by the consent holder, approved by the Council.

6. THAT the maximum amount of CO_2 that can be discharged from the Station in any year shall be 1.5 Mt.

7. THAT the consent holder shall prepare, for the Council:-

(a) An annual report on whether there is an additional amount of CO_2 being discharged as a result of the exercise of this consent; and

(b) An annual plan setting out the steps it proposes to take for the next ensuing year to satisfy condition 4; and

(c) An annual report on the implementation of the plan in a manner and with sufficient detail to enable the Council to confirm compliance with the plan; and

(d) The plan shall be implemented within New Zealand unless the Council, the consent holder and the Minister for the Environment otherwise agree.

8. FOR the purposes of condition 7, the following methodologies shall be used:

(a) Carbon sinks: the methodologies used to estimate emissions and absorption by sinks should be compatible with the Intergovernmental Panel on Climate Change's (IPCC's) Guidelines for National Greenhouse Gas Inventories.

(b) Calculation of "Additional amount of CO2 being discharged": For each year of the consent period, the estimate of the increase in emissions from the electricity generation sector, and attributable to the power station, will be calculated from a comparison of the total actual CO_2 emissions from the electricity generation sector in that year with the total actual CO_2 emissions from the electricity generation sector in the year prior to the commissioning of the power station (the base year), normalised for the average hydrological year. Any increase above base year emissions will be attributable to the power station in proportion to the power station's actual contribution to the aggregate of actual CO_2 emissions from all electricity generation plants commissioned after the base year.

(c) In this context, an average hydrological year means the amount of hydro lake inflows that would have been available in the year prior to the commissioning of the power station if the average over all the years of record of hydrologic conditions (including rainfall, runoff and snowmelt) had occurred in that year.

9. The consent holder shall provide the reports and plan detailed in condition 7 to the Minister at the same time as providing them to the Council.

10. THAT if the General Manager is satisfied that the plan is capable of achieving condition 4 the General Manager shall certify the plan as suitable for the purpose.

11. THAT the consent holder shall adopt the best practicable option to prevent or minimise any actual or likely adverse effect on the environment associated with the discharge of contaminants into the environment from the site.

12. THAT a general outline of the methods, specifications, operating guidelines or other measures which represent the best practicable option at the time of commissioning will be supplied by the consent holder and thereafter attached to this consent as Schedule A.

13. THAT the measures representing the best practicable option may be reviewed in accordance with the procedure provided for in condition 25.

14. THAT prior to undertaking any alterations to the plant, processes or operations specified in the application, which alterations may significantly change the nature or quantity of contaminants emitted from the site, the consent holder shall consult with the General Manager and shall obtain any necessary approvals under the Resource Management Act

15. THAT the consent holder shall provide to the Council within two years from the commencement of commissioning of the Station and again at four years from commencement of commissioning of the Station and every six years thereafter, a written report:

(a) reviewing any technological advances in the reduction or mitigation of emissions, especially, but not exclusively in respect of the cooling tower plume and of carbon dioxide, how these might be applicable and/or implemented at the power station, and the costs and benefits of these advances; and

(b) detailing an inventory of emissions from the site of such contaminants as the General Manager may from time to time specify following consultation with the consent holder; and

(c) detailing any measures that have been taken by the consent holder to improve the energy efficiency of the Station; and

(d) addressing any other issue relevant to the minimisation or mitigation of emissions from the site that the General Manager considers should be included; and

(e) detailing carbon dioxide emissions from the site.

16. THAT the consent holder shall control all emissions of carbon monoxide to the atmosphere from the site, in order that the maximum ground level concentration of carbon monoxide arising from the exercise of this consent measured under ambient conditions does not exceed 10 mg/m^3(eight-hour average exposure), or 30 mg/m^3 (one-hour average exposure) at or beyond the boundary of the site.

17. THAT the consent holder shall control all emissions of nitrogen oxides to the atmosphere from the site, in order that the maximum ground level concentration of nitrogen dioxide arising from the exercise of this consent measured under ambient conditions does not exceed 30 μ/m^3 (twenty-four hour average exposure), or 95 $\mu g/m^3$ (four-hour average exposure) at or beyond the boundary of the site.

18. THAT the consent holder shall control all emissions to the atmosphere from the site of contaminants other than carbon dioxide, carbon monoxide, and nitrogen oxides, in order that the maximum ground level concentration for any particular contaminant arising from the exercise of this consent measured at or beyond the boundary of the site is not increased above background levels:

(a) by more that 1/30th of the relevant Occupational Threshold Value-Time Weighted Average, or by more than the Short Term Exposure Limit at any time, (all terms as defined in Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992, Department of Labour), or

(b) if no Short Term Exposure Limit is set, by more than three times the Time Weighted Average at any time, (all terms as defined in Workplace Exposure Standards and Biological Exposure Indices for New Zealand, 1992, Department of Labour).

19. THAT except in any period of 30 minutes following the initiation of start-up of a turbine or in any period of 30 minutes prior to the cessation of the generation of electricity from a turbine, in the event that the discharge of nitrogen oxides exceeds:-

(a) a mass emission rate for the site of 70 g/s, or

(b) a mass emission rate per gas turbine stack of (70 divided by n) g/s (where n = number of gas turbine stacks), or

(c) a concentration in any gas turbine stack equivalent to 75 mg/m^3 at 84° Celsius, or to 50 ppm (volumetric basis) then the operator shall immediately initiate all reasonable steps to reduce the emissions to below these levels as soon as practicable.

20. THAT the sum of all discharges of nitrogen oxides from the site of the power station is not to exceed 430 kg in any period of one hour.

21. THAT the minimum height of discharge of the products of combustion from the turbines shall be 35 metres above ground level.

22. THAT the discharges authorised by this consent shall not give rise to any direct significant adverse ecological effect on any ecosystems in the Taranaki region, including but not limited to habitats, plants, animals, microflora, and microfauna.

23. THAT the evaporative cooling system to be used shall not produce a visible plume at any ambient condition further from saturation than 6^0 Celsius and 85% relative humidity.

24. THAT the evaporative cooling system shall be operated in order that the loss of cooling water as droplet drift to atmosphere does not exceed in aggregate 0.02% of the cooling water circulation rate at the time.

25. THAT subject to the provisions of this condition, the Council may within six months of receiving a report prepared by the consent holder pursuant to condition 15 of this consent, serve notice that it intends to review the conditions of this resource consent in accordance with Section 128(1)(a) of the Resource Management Act for the purpose of:

(a) dealing with any significant adverse effect on the environment arising from the exercise of the consent which was not foreseen at the time the application was considered and which it is appropriate to deal with at the time of the review; or

(b) requiring the holder to adopt the best practicable option to remove or reduce any adverse effect on the environment caused by the discharge; or

(c) taking into account any Act of Parliament, regulation, national policy statement, regional policy statement or regional rule which relates to limiting,

recording, or mitigating carbon dioxide and which is relevant to emissions from the Station.

26. THAT this consent shall lapse on the expiry of six years after the date of commencement of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to Section 125(b) of the Resource Management Act 1991.